

DEPARTMENT OF PLANNING  
STAFF REPORT

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**PLANNING COMMISSION PUBLIC HEARING**

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**DATE OF HEARING: October 27, 2010**

**SPEX 2010-0013, LUCK STONE INTER-QUARRY TUNNEL**

**DECISION DEADLINE: February 1, 2011**

**ELECTION DISTRICTS: Catoctin and Broad Run**

**PROJECT PLANNER: Jane McCarter, AICP**

**DIRECTOR: Julie Pastor, AICP**

**EXECUTIVE SUMMARY**

Luck Stone Corporation of Richmond, Virginia, has submitted an application for a special exception to modify the conditions of approval associated with SPEX 1990-0019, Luck Stone Quarry, in the MR-HI (Mineral Resource-Heavy Industry) zoning district. The proposed modifications would permit a below-grade inter-quarry tunnel access road under the Goose Creek, in lieu of the approved conveyor/bridge, to serve a planned quarry extension on the west side of the Goose Creek. This application is subject to the Revised 1993 Zoning Ordinance and the proposed use is listed as a Special Exception use under Section 3-1004(J), pursuant to Sections 3-1007 and 3-1008. The subject property is also located within the QN (Quarry Notification) Overlay District-Luck Quarry, partially within the AI (Airport Impact) Overlay District, outside of but within one (1) mile of the Ldn 60 aircraft noise contour for the Leesburg Executive Airport, and partially within the FOD (Floodplain Overlay District).

The area of the proposed Special Exception comprises an approximately 30.77 acre portion of 3 adjacent parcels containing 148.41 acres, 137.03 acres, and 235.89 acres, and is located within the Luck Stone Quarry, on the west side of Belmont Ridge Road (Route 659), south of the Town of Leesburg, on the south side of the W&OD Trail, on the east side of Cochran Mill Road (Route 653), and north of the Dulles Greenway (Route 267), at 41551 Cochran Mill Road, Leesburg.

The area is governed by the policies of the Revised General Plan (Transition Policy Area (Lower Sycolin Subarea)), the Countywide Transportation Plan, and the Toll Road Plan which propose significant open space to protect the Goose Creek and Beaverdam Reservoirs and diabase quarry operations, and which designate this area for residential uses at a base density of 1 dwelling per 10 acres in a clustered pattern and for non-residential uses that provide a transition between the Rural and Suburban Policy Areas.

This application is subject to a companion rezoning request (Luck Stone Quarry, ZMAP 2009-0003) to convert a portion of the property encompassed by this Special Exception request from PD-GI (Planned Development – General Industrial) zoning district to the MR-HI (Mineral Resource - Heavy Industry) zoning district.

## **RECOMMENDATION**

The proposed special exception to revise conditions (Conditions 14-19) and the plat approved under SPEX 1990-0019 and thereby supporting the construction of an inter-quarry tunnel beneath Goose Creek conforms with the land use and mineral extraction policies of the Revised General Plan. Staff supports approval upon completion and agreement on the conditions of approval.

## **SUGGESTED MOTIONS**

1. I move that the Planning Commission forward SPEX 2010-0013, Luck Stone Inter-Quarry Tunnel, to a worksession for further review.

Or

2. I move that the Planning Commission forward SPEX 2010-0013, Luck Stone Inter-Quarry Tunnel, to the Board of Supervisors with a recommendation of approval subject to the Conditions of Approval dated September 28, 2010 and based on the Findings contained in the October 27, 2010 Staff Report.

Or,

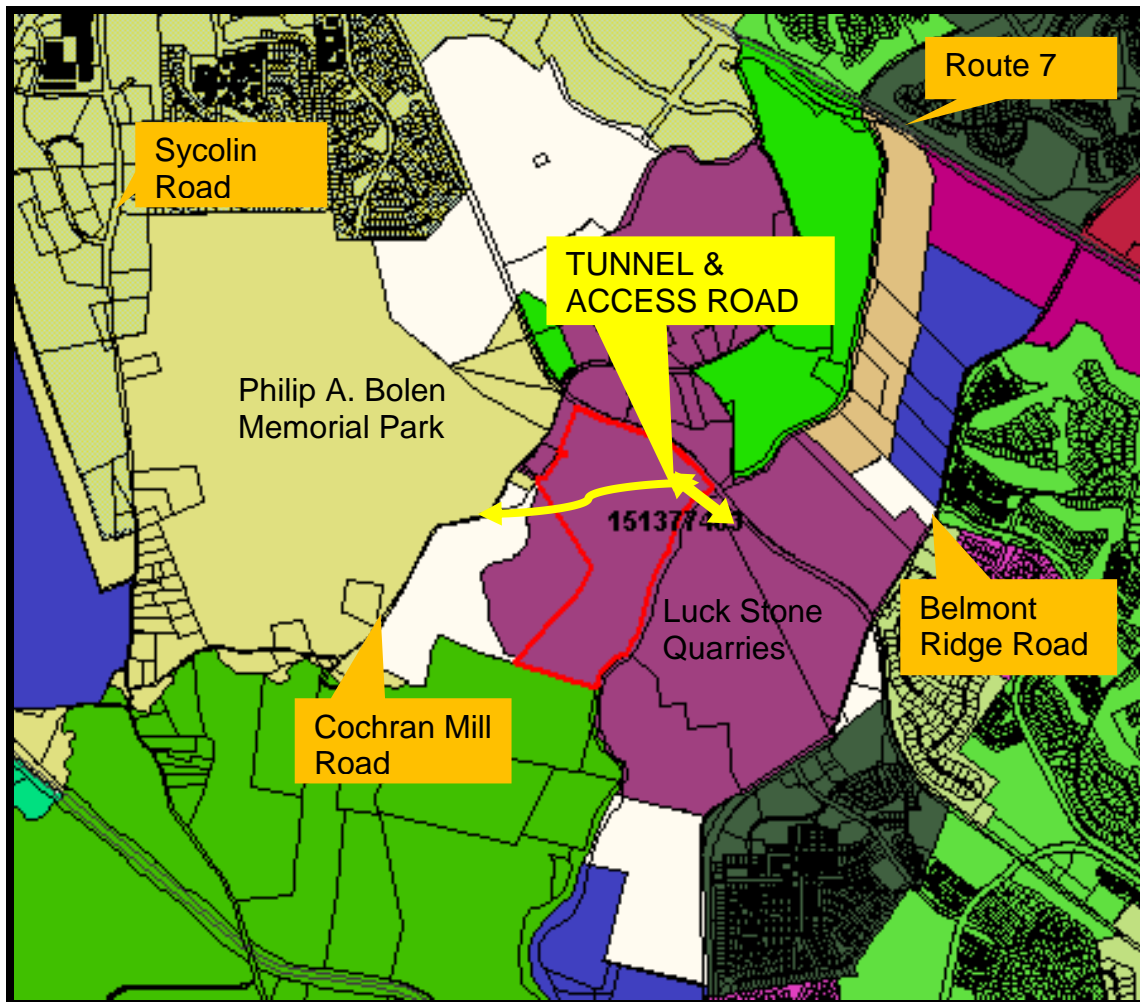
3. I move that the Planning Commission forward SPEX 2010-0013, Luck Stone Inter-Quarry Tunnel, with a recommendation of denial to the Board of Supervisors based upon the following Findings:

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### VICINITY MAP



*Map for Illustrative Purposes Only to Locate Tunnel and Access Road – Not To Scale*

**Directions:** From Leesburg, take Sycolin Road south past the Leesburg Executive Airport. Turn left onto Cochran Mill Road, then right onto farm lane approximately 1/2 mile northeast and past the intersection of Sycolin Road and Gant Lane.

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## I. APPLICATION INFORMATION

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**PROPOSAL:** A Special Exception to permit a below grade tunnel under Goose Creek and to amend the conditions approved with SPEX 1990-0019 in the MR-HI (Mineral Resource - Heavy Industry) zoning district. Application accepted on September 2, 2009.

**LOCATION:** North side of the Dulles Greenway (Route 267), east of Sycolin Road (Route 643), and west of the Goose Creek, about 1/2 mile northeast of the intersection of Cochran Mill Road (Route 653) and Gant Lane (Route 652) in Ashburn

**TAX MAP/PARCEL:** Tax Map /61/////////6/ (portion) PIN# 151-37-7403  
Tax Map /61/////////8/ (portion) PIN# 151-16-0598  
Tax Map /61/////////23/ (portion) PIN# 152-39-5797

**ZONING:** MR-HI (Mineral Resource – Heavy Industry and PD-GI (Planned Development – General Industrial)  
*(proposed MR-HI, companion application ZMAP 2009-0003)*  
AI (Airport Impact) Overlay District (partially)  
FOD (Floodplain Overlay District) (partially)  
QN (Quarry Notification Overlay District) (partially)

**SITE AREA:** 30.77 acres (portion transversing three parcels totaling 521.33-acres)

**SURROUNDING LAND USES/ZONING:**

<b>NORTH</b>	MR-HI and PD-GI	existing Quarry D Luck Stone and vacant Luck Stone property <i>(proposed MR-HI)</i>
<b>SOUTH</b>	MR-HI and PD-GI	existing Quarry D Luck Stone and vacant Luck Stone property <i>(proposed MR-HI)</i>
<b>EAST</b>	MR-HI	existing Quarry C Luck Stone property
<b>WEST</b>	JLMA-20	existing Philip A. Bolen Memorial Park

## II. SUMMARY OF DISCUSSION

Topic	Issues Reviewed and Status
Comprehensive Plan	<ul style="list-style-type: none"> <li>• Consistency with the <u>Revised General Plan</u> land use and mineral extraction policies. Status: RESOLVED. The proposed revision to conditions and tunnel are consistent with the land use and mineral extraction policies of the <u>Revised General Plan</u>.</li> <li>• Green infrastructure and visual impacts removed in replacing the conveyor/bridge with the tunnel. Status: RESOLVED. The proposed revision to conditions and tunnel are consistent with the green infrastructure policies of the <u>Revised General Plan</u>.</li> <li>• Depiction of the 300' no-build buffer to protect river and stream corridor resources. Status: RESOLVED: The SPEX Plat shows the entrances well outside of the 300' buffer.</li> </ul>
Zoning	<ul style="list-style-type: none"> <li>• This application is subject to approval of ZMAP 2009-0003, Luck Stone, a rezoning request from PD-GI to MR-HI. Status: RESOLVED as the rezoning application will be concurrently processed.</li> <li>• Staff recommends a 20-year period of validity for the tunnel construction. Status: RESOLVED with a condition that enables adequate time for the quarry to reach tunnel depths through normal quarrying processes.</li> <li>• Staff recommends a unified special exception to supercede both SPEX 1990-0019 and SPEX 1999-0006 and to include SPEX 2009-0027 to provide the clarity of a single plat and set of conditions addressing overlapping quarry project areas. Status: ISSUE condition proposed.</li> </ul>
PRCS	<ul style="list-style-type: none"> <li>• Coordinate with PRCS for opportunities to develop a trail network along the Goose Creek. Status: RESOLVED with a condition.</li> <li>• Coordinate with PRCS and Loudoun Water to provide a future public recreational amenity following quarry cessation. Status: ISSUE condition proposed.</li> </ul>
DCR; GCSAC; NVRPA	<ul style="list-style-type: none"> <li>• Visual impacts removed in replacing the conveyor/bridge with the tunnel. Status: RESOLVED. The proposed tunnel is consistent with preservation of Goose Creek Scenic River.</li> </ul>
Environmental Review	<ul style="list-style-type: none"> <li>• Turbidity testing for Goose Creek. RESOLVED with a condition.</li> <li>• Contingency plan to address tunnel failure. Status: RESOLVED with a condition.</li> <li>• Flow gauge for Goose Creek to measure base flow and as early warning system for tunnel failure. Status: RESOLVED with a condition.</li> <li>• Wood turtle habitat. Status: RESOLVED with a condition.</li> </ul>

Emergency Services	<ul style="list-style-type: none"> <li>• Demonstrate adequate access and circulation of emergency vehicles throughout the site at the time of site plan. Status: RESOLVED. Applicant will demonstrate this circulation at site plan.</li> <li>• Contribution to the primary volunteer fire and rescue agencies. Status: RESOLVED. Applicant has agreed to this contribution through a note on the conditions consistent with policy.</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>• Provide safe and adequate access to the site, including during construction. Status: RESOLVED with conditions.</li> <li>• Limit locations of construction vehicle access and internally quarried rock transport. Status: RESOLVED with conditions.</li> </ul>
Disclosure of Real Parties	<ul style="list-style-type: none"> <li>• Received, signed September 28, 2010.</li> </ul>

**APPLICABLE POLICY OR ORDINANCE SECTION**

Revised General Plan

Chapter 5: Green Infrastructure/Environmental, Natural, and Heritage Resources.  
 Chapter 5: Mineral Resource Extraction  
 Chapter 6: Suburban Policy Area  
 Chapter 7: Planned Land Use Map.  
 Chapter 8: Transition Policy Area.

Revised Countywide Transportation Plan

Chapter 1: Transportation Strategy and Goals.

Revised 1993 Zoning Ordinance

Section 3-1001 and 3-1002, Special Exception Uses MR-HI districts.  
 Section 4-1402 AI – Airport Impact Overlay District  
 Section 4-1500 FOD - Floodplain Overlay District.  
 Section 4-1800 QN - Quarry Notification Overlay District  
 Section 5-1508 Steep Slope Standards.  
 Section 5-1504 Light and Glare Standards.  
 Section 5-1507 Noise Standards.  
 Section 5-1508 Steep Slope Standards.  
 Section 6-1300. Special Exception.  
 Section 6-1313, Period of Validity.

### III. FINDINGS

1. The proposed special exception to revise the conditions of approval (Conditions 14-19) and the plat approved under SPEX 1990-0019 to allow for a tunnel and removing the previously approved conveyor/bridge is consistent with the land use and mineral extraction policies of the Revised General Plan (RGP).
2. The proposed tunnel provides a more environmentally sensitive and less visually intrusive alternative to the previously approved conveyor/bridge over Goose Creek and is consistent with the green infrastructure policies of the Revised General Plan (RGP).
3. The proposed special exception to revise the conditions of approval and the plat approved under SPEX 1990-0019, and to provide for an inter-quarry tunnel connection, complies with the Revised 1993 Zoning Ordinance.

### IV. DRAFT CONDITIONS OF APPROVAL

**SEPTEMBER 28, 2010**

1. Substantial Conformance: The approved Special Exception Use, modification to an existing quarry use with a tunnel for inter-quarry access, shall be developed in substantial conformance with the Special Exception Plat, consisting of two (2) sheets dated May 5, 2010, as revised through August 26, 2010, and prepared by Dewberry & Davis LLC. (the "SPEX Plat"), subject to these conditions of approval. Approval of this application for the portion of Tax Maps # /61/////////6/; /61/////////8/; and /61/////////23/ (PINS # 151-37-7403, 151-16-0598, and 152-39-5797, respectively) lying within the SPEX LIMITS as delineated and labeled on the SPEX Plat (the "Property") shall not relieve the Applicant or the owners of the Property from the obligation to comply with and conform to any Zoning Ordinance, Codified Ordinance, or applicable requirement. As used in these conditions, "Applicant" includes the owner of the Property subject to this Special Exception approval, its successors, and parties developing, establishing or operating the approved Special Exception Use.
2. Previous Special Exceptions: The approved Special Exception shall incorporate the areas uses and conditions of SPEX 1990-0019 and SPEX 1999-0006. These conditions of approval for the SPEX 2010-0013 shall, with the conditions of approval for SPEX 2009-0027, coordinate a unified approach to the overlapping special exception projects.
3. Period of Validity: The period of validity, set forth in Section 6-1313 of the Revised 1993 Loudoun County Zoning Ordinance, for this Special Exception approval shall be twenty (20) years. Such period of validity may be extended for good cause shown, provided that an application is submitted to the Board of Supervisors a minimum of thirty (30) days before the expiration date.
4. Buffer Preservation: No clearing or grading associated with the proposed inter-quarry tunnel, approach roads or temporary construction access shall be permitted within the minimum 300-foot setback along the Goose Creek, the Scenic Creek valley buffer or the 50' stream buffer as shown on the SPEX plat. Further all disturbance activities will avoid designated wetland



and steep slope areas.

5. Goose Creek Scenic Creek Buffer: The applicant shall dedicate a 300 foot buffer area along the entire property frontage with Goose Creek prior to obtaining a zoning permit for the project. This buffer area shall be dedicated as permanent open space to the Virginia Outdoors Foundation or to another entity acceptable to the County of Loudoun. This dedication will be made with certain reservations to include areas for the tunnel, roadway, water lines, berms, fencing, etc. as shown on a "Goose Creek Scenic Easement exhibit" drawn by Dewberry & Davis and dated August 7, 1990 and revised August 29, 1990.
6. Trail Easement Along Goose Creek: At such time that an off-site trail is constructed to connect to the northern or southern boundary of the tunnel area, the Applicant shall dedicate to the County, at no cost to the County, a fourteen (14) foot wide public access easement within the "300' NO BUILD BUFFER" as labeled and delineated on the SPEX Plat. Such easement shall be field located by Loudoun County Parks, Recreation and Community Services (PRCS) Staff in coordination with the Applicant.
7. Lighting: All exterior lighting, including security lighting, shall be designed and installed to minimize light trespass and the visibility of lighting from properties offsite of the Property. Exterior light fixtures shall be full cut-off and fully shielded and shall direct light downwards and into the interior of the Property and away from surrounding public roads and properties.
8. Blasting: No bulk blasting materials shall be stored on the subject Property. Tunnel blasting operations will be limited to Mondays through Fridays between the hours of 8:00 a.m. and 5:00 p.m., except in the case when a blasting charge has been set before 5:00 p.m. and is then delayed. In such a case, the Applicant may then complete the blast after 5:00 p.m., but no later than 30 minutes after sunset.
9. Fugitive Dust: Fugitive dust shall be suppressed by use of water spraying activities. No oil-based products shall be used for suppression of fugitive dust.
10. Temporary Construction Access: The Applicant shall utilize an existing farm lane as shown on the plat and bridge on MCPI #151-16- 0598 to access and locate necessary construction vehicles for the properties west of Goose Creek and begin the tunnel excavation process. No transportation of quarried rock will occur through the farm lane or bridge. Field alterations to the location of the farm lane may change within the area of Special Exception to avoid existing environmental features such as existing trees, swales, and floodplain areas. The temporary construction access farm lane shall be constructed to current FSM standards. Sycolin Creek bridge crossing shall be improved to current FSM standards and with least impact to the Scenic Creek Valley Buffer.
11. Traffic Management: Prior to site plan approval for the tunnel construction, the Applicant shall submit a Traffic Management Plan to OTS and VDOT for review and approval. Such plan shall address the temporary construction entrance and access route, delivery schedules for wide loads during off-peak times, and measures for minimizing conflicts on the access route to and from the site. Construction traffic access to and from the Property shall be limited to Cochran Mill Road.

12. Quarried Rock Transport: Any rock or material excavated on MCPI #151-37-7403 during the construction of the tunnel will be stored on the same parcel until such time as the tunnel is completed. Following opening of the tunnel, any rock recovered west of Goose Creek will be transported to the main plant located in Quarry B through the tunnel. Quarried rock shall not be transported via Cochran Mill Road.
13. Tunnel Purpose: The Applicant shall utilize the proposed tunnel for conveying rock and transporting equipment vehicles which are necessary to maintain, manage, and service the proposed quarries. Access to the Luck Stone properties for all quarry trucks will continue to be provided solely via Belmont Ridge Road (Route 659).
14. Tunnel Entrances: The two proposed tunnel entrances will be located between 300 and 400 feet on both sides of the Goose Creek (outside of the 300 foot no build buffer) and only within areas previously approved for mineral extraction activities.
15. Tunnel Groundwater: Groundwater within the tunnel will be continually monitored by measuring channeled water towards trenches at either side of the tunnel excavation. At regular intervals, sump pumps will be installed to transport the water to a discharge pipe equipped with a flow meter to measure water infiltration, which will provide an accurate measurement of the tunnel's impact on Goose Creek.
16. Stream Flow Gauge: The Applicant shall provide a new stream flow gauge within Goose Creek near the tunnel location to record the base flow within Goose Creek. The device selected shall be approved by Loudoun County. At the Applicant's request and the County's discretion the device may be substituted with alternative measuring mechanisms.
17. Risk Planning: The Applicant shall implement the technical memorandum "Risk Mitigation Measures and Contingency Planning for Tunneling Under Goose Creek".
18. Tunnel Collapse: The Applicant shall develop a contingency plan to maintain the normal flow of Goose Creek in the event of a tunnel collapse. The Applicant shall prepare and approve this plan with Loudoun County prior to approval of the site plan for the tunnel or associated quarry uses.
19. Wood Turtles: If any wood turtles are found during quarry development, the Applicant shall notify all contractors working on the Subject Property about the potential to encounter wood turtles and to undertake a "sweep" of potential habitat areas prior to initiation of construction. The Applicant will also distribute a flyer prepared by the Virginia Department of Game and Inland Fisheries that includes photos and a description of wood turtles that is distributed to all site workers. Any wood turtles located during such a sweep will be relocated to a suitable area along Sycolin Creek or Goose Creek. Additionally, The Applicant will comply with all federal, state, and local laws governing endangered species. Upon determination by the appropriate federal or state authority that rare species/communities exist, the Applicant will evaluate the portion of the site not impacted by mining as a possible mitigation area prior to disturbance. The Applicant shall instruct contractors to use bridge spans or bottomless culverts to prevent barriers of migration.

20. Federal and State Permits: If violations of any state or federal permits are reported to Loudoun County by the applicable regulatory agency, the Board of Supervisors, and/or the County Administrator, may request the Applicant to provide, at the Applicant's sole expense, the services of an appropriate firm to review the nature of the violation, if any, and the remedy, if any. This firm shall be jointly selected by the Applicant and Loudoun County and will report solely to Loudoun County.
21. Inspections: The County reserves the right to inspect the site at any reasonable time during normal hours of operation without prior notice to insure that the construction and operation of the tunnel meets the requirements of the Revised 1993 Zoning Ordinance, these conditions, the codified ordinance or other regulatory requirement.
22. Future Recreational Amenity: Following cessation of quarrying activities within this area the Applicant shall coordinate with Loudoun Water and the Department of Parks, Recreation, and Community Services to create a public recreational amenity for the quarry areas.

**NOTE:** The Applicant will provide a one time fire and rescue contribution to the servicing Fire and Rescue Company in the amount of \_\_\_\_\_ for the fire and rescue services. This contribution shall be made at the time the site plan is approved for the tunnel and temporary construction access road.

## **V. PROJECT REVIEW**

### **A. CONTEXT**

#### Background

Luck Stone Corporation of Richmond, Virginia (hereinafter, "Luck Stone"), is the owner and operator of a series of stone quarries in Loudoun County, including the existing "Leesburg Plant" quarry operation located in Loudoun County along Route 659 on the east side of Goose Creek (MCPI #152-39-5797), which it has operated since 1971 (see *Illustration 1*). The Leesburg Plant consists of Quarries "A" and "B," which are located north and south of the Washington & Old Dominion Trail, respectively and connected by an existing tunnel. Luck Stone also holds approvals under SPEX 1990-0019, ZMAP 1999-0004, and SPEX 1999-0006 for the eventual extension of the Leesburg Plant operation west of Goose Creek (known as future Quarry "D") on 198.1 acres located between two parcels, MCPI #151-37-7403 and 151-16-0598. Luck Stone plans to commence extractive quarrying activities on Quarry D within three to five years.

#### Request

Luck Stone is requesting a Special Exception to revise Conditions 14-19 and the Special Exception plat approved under SPEX 1990-0019, and, to permit the construction of an inter-quarry tunnel beneath Goose Creek, rather than the previously approved conveyor/bridge over Goose Creek. The subject site is located approximately 500' north of the previously approved site of the conveyor/bridge and does not include the conveyor/bridge site within this special exception plat. The subject site is comprised of three parcels located on either side of Goose Creek which are currently zoned PD-GI and MR-HI with a portion of the parcels on the west side of Goose Creek to be rezoned to MR-HI.



### ILLUSTRATION 1

The conditions of approval to be revised are:

14. The applicant shall dedicate a 300 foot buffer area along the entire property frontage with Goose Creek prior to obtaining a zoning permit for the project. This buffer area shall be dedicated as permanent open space to the Virginia Outdoors foundation or to another entity acceptable to the County of Loudoun. This dedication will be made with certain reservations to include areas for the conveyor/bridge. Roadway, water lines,

berms, fencing, etc. as shown on a "Goose Creek Scenic easement exhibit" drawn by Dewberry & Davis and dated August 7, 1990 and revised August 29, 1990 (Reference Attachment 17) and with the understanding that there will be no public access to the dedicated area until the final and permanent cessation of quarrying activities.

15. The applicant shall construct the conveyor/bridge across Goose Creek in substantial conformance with the sketch plan prepared by Dewberry & Davis. The design shall include solid or tightly jointed walls and bottom.
2. The applicant shall design the conveyor/bridge to prevent water or debris from falling from the structure into Goose Creek.
3. The applicant shall construct a collection pond or ponds to capture water from the structure. The applicant shall include the ponds in the site plan design.
4. The applicant shall ensure that the conveyor/bridge is used only to convey crushed stone across Goose Creek and by service and passenger vehicles which are necessary to maintain, manage and service the site.
5. The applicant shall remove the conveyor/bridge upon the final and permanent cessation of quarry activities or sixty years after receipt of the first zoning permit for the project.

The proposed tunnel is designed to permit the passage of vehicles, as well as the transport of quarried stone via conveyor belt from future Quarry D on the west side of Goose Creek to existing Quarry C and crushing operations located on the east side of Goose Creek. The proposed tunnel will be 45 feet in width and 1,000 feet in length and tunnel entrances will daylight between 300 and 400 feet on either side of Goose Creek within the approved quarry pit for Quarry D and existing Quarry C. The proposed tunnel entrances will not be visible from Goose Creek and are located outside the 300 foot no-build buffer associated with Goose Creek, which is designated as a "Scenic River" by the Commonwealth of Virginia. The proposed tunnel provides a more environmentally sensitive and less visually intrusive alternative to the previously approved conveyor/bridge over Goose Creek.

#### Adjacent Properties and Companion Applications

Luck Stone Corporation owns the parcels to the north, south and east of the subject properties. The properties are also the subject of an active rezoning application (ZMAP 2009-0003, Luck Stone Quarry) to remap five (5) parcels and a portion of two (2) other parcels, totaling 303.70 acres, from PD-GI, TR-10, JLMA-20, and MR-HI to MR-HI for the purpose of expanding Luck Stone's quarrying operations. This Special Exception application is subject to approval of that companion application. The subject properties are bounded to the east by the Goose Creek and on the west by the approximately 450 acre Philip A. Bolen Memorial Park.

### Surrounding Properties and Companion Applications

Surrounding properties are also the subject of recently approved or active rezoning applications. Currently both Loudoun Water and Luck Stone are pursuing rezoning, ZMAP 2009-0003 and ZMAP 2009-0004, to MR-HI for quarry and water treatment plant uses. Luck Stone is seeking approval of SPEX 2009-0027, for expansion of the approved Quarry "D" south of this proposal and Loudoun Water with SPEX 2009-0021 is seeking approval for a water treatment plant to the south of the Luck Stone Quarry Special Exception. The Board recently approved Green Energy Partners/Stonewall Hybrid Energy Park (ZMAP 2009-0005), rezoning 101 acres from the TR-10 (Transitional Residential - 10) and JMLA-20 (Joint Land Management Area - 20) zoning districts to the PD-GI (Planned Development - General Industry) for the purpose of developing a utility generating plant and transmission facility. The property south of the hybrid energy park and west of the subject site is the active Stonewall Secure Business Park (ZMAP 2008-0017) application, a request to rezone 193.97 acres from TR-10 to PD-GI.

## **B. SUMMARY OF OUTSTANDING ISSUES**

The proposal is supported by Staff subject to agreement on the conditions of approval. The draft conditions provided by the Applicant have been reviewed by the County Attorney with comments provided to the Applicant. Additional conditions developed by Staff have been provided to the Applicant for review. Staff will update the Planning Commission at the public hearing with a revised set of conditions for discussion.

## **C. OVERALL ANALYSIS**

### **COMPREHENSIVE PLAN**

The subject site is governed under the policies outlined in the Revised General Plan, the Countywide Transportation Plan (CTP) as well as the Toll Road Plan (TRP). The subject site is partially located within the Suburban Policy Area and the Lower Sycolin Subarea of the Transition Policy Area.

The land use policies in Chapter 6 for the Suburban Policy Area and Chapter 8 for the Transition Policy Area were used to evaluate the Special Exception application. The environmental features on the subject site were assessed applying the Green Infrastructure policies of Chapter 5 of the Revised General Plan, including the policies pertaining to river and stream corridor resources, forest resources, steep slopes, diabase, and plant and wildlife habitat. The proposed use is more specifically governed under the policies for Mineral Resource Extraction in Chapter 5.

### **LAND USE**

The subject site is part of Luck Stone's "Leesburg Plant" which consists of existing Quarry C and crushing facilities located on the east side of Goose Creek and accessed from Belmont Ridge Road (Route 659) and Quarry D, an approved but undeveloped quarry located on the west side of Goose Creek. The subject site is partially located within Suburban Policy Area and Transition Policy Area in an area designated by the Plan for Extractive Industry by the Revised General Plan. The area contains diabase rock which is a non-renewable resource used for the construction of roads and buildings that is found in limited areas of the County. The County



recognizes the importance of this resource and supports the protection of extractive industries like the existing Luck Stone Quarry from incompatible land uses and the encroachment by residential development. County policies support the operation and long-range planning of quarry sites, including setting aside sufficient land for future quarry expansion and the creation of mitigation plans for the sensitive reuse of the quarries after extraction is complete such as the proposed future water impoundment associated with Loudoun Water.

Staff finds the proposed quarry use and construction of the proposed tunnel on the subject site are supported by the land use and mineral extraction policies of the Plan. In addition the proposed tunnel provides a more environmentally sensitive and less visually intrusive alternative to the previously approved conveyor/bridge over Goose Creek.

### **EXISTING CONDITIONS AND GOOSE CREEK**

The Green Infrastructure is a collection of natural, cultural, heritage, environmental, protected, passive and active resources that will be integrated in a related system. Significant elements of the Countywide Green Infrastructure that can be found on the subject site, include the river and stream corridor resources of Goose Creek and Sycolin Creek, forest resources, steep slopes, diabase rock, and plant and wildlife habitat. The County uses integrated management strategies for the Green Infrastructure to ensure that all land use planning and development respect and preserves the holistic nature of the elements of the Green Infrastructure.

The subject site is located within the Goose Creek watershed and contains significant river and stream resources associated with Goose Creek. Goose Creek in Loudoun County is designated as a "Scenic River" by the Commonwealth of Virginia and is further protected by Plan policy which calls for the establishment of a 300-foot no-build buffer. The proposed tunnel will be constructed under Goose Creek at a depth of approximately 45 feet and the tunnel entrances will daylight between 300 and 400 feet on either side of Goose Creek within the approved quarry pit areas. The proposed tunnel entrances will not be visible from Goose Creek and are located outside the 300 foot no-build buffer associated with Goose Creek. Therefore the proposed tunnel, unlike the previously approved conveyor/bridge over Goose Creek, will not impact any river and stream corridor resources or create a visual impact. Rather the proposed tunnel provides a more environmentally sensitive and less visually intrusive alternative to the previously approved conveyor/bridge over Goose Creek and Staff supports the proposed tunnel.

### **ENVIRONMENTAL**

The Revised General Plan identifies the Green Infrastructure as the framework and unifying element that determines where and how development will occur. The SPEX Plat for the tunnel and temporary access road address the site's Green Infrastructure elements. Proposed development impacts to the Scenic Creek Valley Buffers of Sycolin and Goose Creeks are minimized through the temporary construction access road location and the tunnel proposal.

Staff noted that the tunnel provides for a man-made aqueduct over which Goose Creek will flow and recommended that a contingency plan be provided enabling the base flow of Goose Creek to be sustained if there is a collapse or significant fractures of the proposed tunnel. Staff further encourages consideration of a flow gauge on Goose Creek to monitor base flow downstream of

the tunnel, which could be used as a measure to activate the contingency plan. The Applicant is considering the proposed conditions to address these concerns.

Evaluation of the site indicated the presence of wood turtles on or near the project area. The Applicant agreed to a condition requiring a sweep of the area and removal prior to construction activities.

Staff recommended a condition of approval for turbidity testing of runoff leaving erosion and sediment control structures after storm events as provided by surrounding utility uses, most recently Green Energy Partners (SPEX-2009-0009). The applicant has agreed to meet enhanced stormwater and erosion and sediment control requirements noting the areas involved in clearing and grading are a minimum of 300 feet from Goose Creek. Staff notes the impacts to Sycolin Creek are more immediate and agreed the enhanced erosion and sediment control measures such as super silt fence would provide the protection needed for this area.

A portion of the site is located within Ldn 60 1-mile noise contour of the Leesburg Executive Airport. The proposed tunnel and temporary construction access road will not be impacted by this constraint.

**DEPARTMENT OF CONSERVATION AND RECREATION;  
GOOSE CREEK SCENIC ADVISORY COMMITTEE;  
NORTHERN VIRGINIA REGIONAL PARK AUTHORITY**

The proposed tunnel alternative to the approved conveyor/bridge was reviewed and universally supported by each of these environmental groups. There was agreement that the tunnel proposal would remove a visual impact further preserving the natural areas for public enjoyment within the Goose Creek Scenic River boundaries.

**TRANSPORTATION**

Staff and the Applicant have resolved all of the transportation issues identified in the referral comments, namely those issues pertaining to temporary construction access to the tunnel during construction. These are discussed below.

**Trip Generation Information**

The Applicant's traffic statement provides the existing Luck Stone trips to and from Belmont Ridge Road (Route 659) with 152 AM peak hour, 58 PM peak hour and 1,717 daily vehicle trips. Additionally the traffic statement noted the Luck Stone trips at the proposed new employee/service entrance onto Cochran Mill Road (Route 653) (19 AM peak hour, 19 PM peak hour and 70 daily vehicle trips). The traffic statement also stated that no new trips will be generated by the quarry expansion as it will provide an extension of the design life of the Luck Stone Quarry, not increase traffic.

**Future Traffic Volumes and Level-of-Service (LOS)**

The Applicant's supplemental traffic statement provides year 2015 future traffic volumes. The LOS analysis includes a review of the proposed unsignalized new access onto Cochran Mill Road (Route 653) under three scenarios (1) with Loudoun Water traffic only (2) with Luck Stone



traffic only and (3) with both. The traffic statement indicates that all of the turning movements will operate at LOS A under each scenario during both peak hours.

Staff noted that Condition #5 of SPEX 1990-0019 referencing the requisite right of way dedication of 60' from centerline along Belmont Ridge Road, Route 659 should be made now, if it has not already been dedicated. This dedication has been provided with Condition #11 of SPEX 2009-0027.

As outlined on the SPEX plat the Applicant proposes to provide a temporary construction access road from Cochran Mill Road and roughly coincident with the existing farm lane to facilitate tunnel construction. Given the condition of Cochran Mill Road Staff recommended that all quarry vehicle access be via Belmont Ridge Road (Route 659) and stipulated in the rezoning proffers and/or special exception conditions. The Applicant has agreed to this in both the Proffer Statements and Conditions. The applicant has also agreed to a condition stating that the temporary construction access and the Sycolin Creek bridge crossing shall be improved to current FSM standards and designed with the least impact to the Scenic Creek Valley Buffer. Additionally, the Applicant has agreed to a condition stating no transportation of quarried rock will occur through this access point.

## **FIRE AND RESCUE**

Fire and Rescue staff has no objection to the approval of this application. However, staff notes that the applicant must demonstrate adequate access and circulation of emergency vehicles throughout the site at the time of site plan.

The Leesburg Volunteer Fire and Rescue Company (VF-RC) is identified as the first responder to the subject property, with an approximate response time of 8 minutes and 55 seconds from Station 13 and 10 minutes from Station 20.

Per the adopted Board Fire and Rescue Policy, applicants are typically asked to provide a one-time monetary contribution to be distributed to the primary volunteer fire and rescue agencies that would respond to emergency situations on the subject property. The Applicant has agreed to a note to provide a contribution, upon a recommendation from Fire and Rescue.

## **PARKS RECREATION AND COMMUNITY SERVICES**

### **Goose Creek Trail**

Parks, Recreation, and Community Services (PRCS) is developing a system of interconnected linear parks along the County's stream valley corridors and envisions a trail along Goose Creek. The subject property and the Luck Stone properties to the north and south are integral to extending a trail along Goose Creek to connect with established portions of the Potomac Heritage National Scenic Trail and its trailhead downstream at Keep Loudoun Beautiful Park. Staff asked the applicant to consider dedicating the entire 300-foot no-build buffer to the County for the purpose of a linear park along Goose Creek.

For security reasons, the applicant is reluctant to dedicate the 300-foot no-build buffer for public park purposes. However, the applicant is agreeable to dedicate to the County a 14-foot wide public access easement within 300 feet of Goose Creek once a trail easement has been constructed on the property to the north and south. Staff has included Condition#6 accordingly.

### Reclamation Plan and Future Recreational Amenity

The RGP envisions quarry use as a long term but interim district. The Mineral Resource Extraction Policy 9 states that, "An application to permit the development of new quarries or the expansion of existing quarries will include a concept plan for the use of the site after extraction is complete." Staff sought a commitment for future recreational opportunities, within and around the quarry site with the Applicant, before and after quarry construction, such as non-motorized boating, fishing, hiking, and picnicking.

The Applicant stated that with the extended timeframe for exhaustion of the planned quarry (perhaps as long as 100 years from the beginning of extraction), they could not commit to the creation of a public recreational amenity at this time, nor commit as to what recreational opportunities would be appropriate following the end of extraction activities. The Applicant has committed to the reclamation plan required by DMME.

While the reclamation plan required by DMME addresses resoiling and revegetation it does not address the more comprehensive approach to inclusion of a future amenity use. Staff requests that the Applicant commit to a Condition of Approval for the creation of a public recreational amenity in coordination with Loudoun Water and the Department of Parks, Recreation, and Community Services. The Applicant is considering a condition to address this request as proposed in Condition #22.

### **ZONING**

The property is currently zoned PD-GI and MR-HI. This application is subject to a companion rezoning request (Luck Stone Quarry, ZMAP 2009-0003) to convert that portion of the property encompassed by this Special Exception request from PD-GI (Planned Development – General Industrial) zoning district to the MR-HI (Mineral Resource - Heavy Industry) zoning district in order to expand and operate a stone quarry.

This application is subject to the Revised 1993 Zoning Ordinance and the proposed use is listed as a Special Exception use under Section 3-1004(J), pursuant to Sections 3-1007 and 3-1008. A Special Exception is required to revise the conditions of approval and the plat of SPEX 1990-0019. Concurrent with this request the Applicant plans a tunnel under Goose Creek. While not a special exception request, the tunnel would replace the previously approved and unbuilt conveyor/bridge. The subject property is also located within the QN (Quarry Notification) Overlay District-Luck Quarry, partially within the AI (Airport Impact) Overlay District, outside of but within one (1) mile of the Ldn 60 aircraft noise contour for the Leesburg Executive Airport, and partially within the FOD (Floodplain Overlay District).

The Applicant has shown the tunnel daylighting into the existing Quarry B and the approved Quarry D, beyond and with no impact upon, the 50' management buffer, Scenic Creek Valley Buffer, and the 300' buffer to Goose Creek. The tunnel modification will minimize the visual impact to Goose Creek over the approved conveyor/bridge and allow the existing mature trees and vegetation adjacent to the Goose Creek to continue to shield the quarry operations from view.

Staff can support revisions to the SPEX 1990-0019 conditions of approval and construction of the proposed tunnel on the subject site.

#### Condition Review

Conditions of approval continue review and revision. The County commends the Applicant for proposing a tunnel that successfully serves their business and provides a significant benefit to the citizens of Loudoun County in removing the industrial component from view within the Goose Creek Scenic River area.

However, the County would prefer that the proposed conditions of approval supercede both the previously approved SPEX 1990-0019 and SPEX 1999-0006 to provide clarity and also include the proposed SPEX 2009-0027 currently under review to result in a single SPEX that addresses all quarry interests. While SPEX may float over the same area, the proposed zigzag through 2 existing quarry SPEX areas is confusing and difficult for the County to administer. However, these comments were received after advertising and the information in the ad is not sufficient to allow for superceding of the existing SPEX's.

Given that there are three different sets of conditions for "Quarry D" it is not clear if the intent is for conflicting provisions between the three sets of conditions will always be governed by the most recent. This is not how the conditions would be administered. The conditions applicable to each respective part of the quarry would have to be applied to the respective portions of the quarry. This is especially problematic for this SPEX as it only applies to a narrow strip of land running through parts of two special exception areas and an open space area of a separate zoning map amendment area. The potential for conflict is why the County recommends that the entire quarry be made subject to one special exception and one set of conditions.

Additionally the proposed plat does not remove the area of the conveyor/bridge from consideration. The plat for SPEX 1990-0019 remains unchanged and would continue to allow the conveyor/bridge. Amending the conditions with this SPEX affects only that area shown on the plat for SPEX 2010-0013 which does not include the land for the conveyor/bridge. The County seeks to remove the conveyor/bridge from future consideration with any SPEX currently under review or previously approved and fully supports the Applicant's request for a tunnel in its place.

The temporary construction access condition is also confusing. It is unclear when the temporary status will end, how this road is to be constructed, if removal of vegetation or increased bridging construction through Sycolin Creek would be pursued.

There are additional conditions proposed, under review and revision. The County and the Applicant continue working toward resolution of the proposed and recommended conditions. Staff will update the Planning Commission at the public hearing.

## **D. ZONING ORDINANCE CRITERIA FOR APPROVAL**

### Special Exception Application – Inter Quarry Tunnel

Section 6-1310 of the Revised 1993 Loudoun County Zoning Ordinance states "In considering a special exception application, the following factors shall be given reasonable consideration. The Applicant shall address all the following in its statement of justification or special exception plat unless not applicable, in addition to any other standards imposed by this Ordinance":

- (A) *Whether the proposed special exception is consistent with the Comprehensive Plan.*

Analysis: As outlined and discussed above in Section C, Overall Analysis, Revised General Plan (RGP) policies designate the subject site for Extractive Industry uses. The proposed special exception to revise conditions (Conditions 14-19) and the plat approved under SPEX 1990-0019, and to permit the construction of an inter-quarry tunnel beneath Goose Creek conforms with the land use and mineral extraction policies of the Revised General Plan. The proposed tunnel provides a more environmentally sensitive and less visually intrusive alternative to the previously approved conveyor/bridge over Goose Creek. Subject to development conditions described above, the proposed special exception will be in accordance with the RGP.

- (B) *Whether the proposed special exception will adequately provide for safety from fire hazards and have effective measures of fire control.*

Analysis: The structures associated with the proposed special exception use will be required to provide effective safety and fire control measures that will meet national, state, and local fire safety requirements and regulations inclusive of the Virginia Department of Mines, Minerals and Energy (VDMME). Regarding explosives use Luck Stone maintains an explosives storage permit. Blasting operations are performed by individuals certified through VDMME.

- (C) *Whether the level and impact of any noise emanating from the site, including that generated by the proposed use, negatively impacts the uses in the immediate area.*

Analysis: The proposed uses are a minimum of ½ mile from the nearest residential uses and the tunnel is buffered by quarry uses on both sides of Goose Creek. The temporary construction access road construction is opposite Philip A. Bolen Memorial Park. Blasting for construction or quarrying is limited by the performance standards in the Zoning Ordinance and by VDMME permit. Blasting is limited to certain periods during the day and the Applicant will continue this activity in accordance with their permitting requirements. Disturbance to surrounding residential communities is anticipated to be no different than that which the communities currently experience.

- (D) *Whether the glare or light that may be generated by the proposed use negatively impacts uses in the immediate area.*

Analysis: A condition of approval requires the applicant to install restrictive lighting fixtures to minimize glare and light trespass onto the immediate area.

- (E) *Whether the proposed use is compatible with other existing or proposed uses in the neighborhood, and adjacent parcels.*

Analysis: The subject properties and adjoining properties are similarly zoned PD-GI and MR-HI consistent with the planned land use designation. The proposed tunnel will be less intrusive than the approved conveyor/bridge would be to the adjacent residents and public enjoyment of Goose Creek. The revised conditions and changes to the transport mechanism from a bridge to a tunnel are compatible with the ongoing quarry operations and adjacent parcels (self-storage facility, quarry operations, residential use).

- (F) *Whether sufficient existing or proposed landscaping, screening and buffering on the site and in the neighborhood to adequately screen surrounding uses.*

Analysis: The proposed tunnel entrances will not be visible from Goose Creek and are located outside the 300 foot no-build buffer associated with Goose Creek. Therefore the proposed tunnel, unlike the previously approved conveyor/bridge over Goose Creek, will not impact any river and stream corridor resources or create a visual impact. Further the existing vegetation and buffering will remain undisturbed above the tunnel entrances. The temporary construction access is to be provided over the existing farm road minimizing disturbance to surrounding buffering at the entrance to Cochran Mill Road.

- (G) *Whether the proposed special exception will result in the preservation of any topographic or physical, natural, scenic, archaeological or historic feature of significant importance.*

Analysis: The proposed tunnel provides a more environmentally sensitive and less visually intrusive alternative to the previously approved conveyor/bridge over Goose Creek. Goose Creek as a Scenic River is a significant natural resource and this proposal provides for both continuation of that resource compatible with continuation of economically important quarrying.

- (H) *Whether the proposed special exception will damage existing animal habitat, vegetation, water quality (including groundwater) or air quality.*

Analysis: Quarrying within the temporary construction road access and tunnel limits have been previously approved through ZMAP 1999-0004, SPEX 1990-0019 and SPEX 1999-0006. Within quarrying areas removal of the overburden providing animal habitat and vegetation is necessary. Reclamation of these features is part of the VDMME process and anticipated to occur subsequent to cessation of quarrying activities.

- (I) *Whether the proposed special exception at the specified location will contribute to or promote the welfare or convenience of the public.*

Analysis: The proposed tunnel will contribute to the welfare and convenience of the public in replacing the conveyor/bridge with a tunnel transport system that is not visible to the public, thus enhancing enjoyment of Goose Creek.

- (J) *Whether the traffic expected to be generated by the proposed use will be adequately and safely served by roads, pedestrian connections and other transportation services.*

Analysis: OTS Staff has determined the anticipated traffic impact of the proposed tunnel use is negligible and that the local road network has adequate capacity to safely serve the site. Improvements to Belmont Ridge Road (Route 659) are to be provided through other concurrent applications (ZMAP 2009-0003, ZMAP 2009-0004, and SPEX 2009-0027) to improve offsite infrastructure.

- (L) *Whether the proposed special exception will be served adequately by essential public facilities and services.*

Analysis: As identified in the attached referral agency comments, the proposed special exception use will be adequately served by existing public services.

- (M) *The effect of the proposed special exception on groundwater supply.*

Analysis: The proposed special exception and tunnel construction is not anticipated to affect the groundwater supply. Land disturbance for this construction is limited to the areas immediately adjacent to the tunnel and the temporary access road. These areas have been previously approved for quarry uses (ZMAP 1999-0004, SPEX 1990-0019 and SPEX 1999-0006) with current proposed special exception located in the quarry use areas.

- (N) *Whether the proposed use will affect the structural capacity of the soils.*

Analysis: A detailed geologic assessment addressing the tunnel design and safety measures has been provided by the Applicant. The proposed tunnel area is not anticipated to affect the structural capacity of the soils at present or once quarry operations end and the water storage use is established. Compliance with the requirements of the County's Facilities Standards Manual will ensure adequate structural capacity for any by-right structures constructed in support of the special exception use.

- (O) *Whether the proposed use will negatively impact orderly and safe road development and transportation.*

Analysis: OTS Staff has determined the anticipated traffic impact of this proposed use is negligible and that the local road network has adequate capacity to safely serve the site.

- (P) *Whether the proposed special exception use will provide desirable employment and enlarge the tax base by encouraging economic development activities consistent with the Comprehensive Plan.*

Analysis: The proposed special exception use will facilitate continued and expanding operations within the Luck Stone Quarries. Luck Stone provides desirable employment, contributes to the tax base and encourages economic development activities in providing their quarry products which is consistent with the policy directives of the RGP.

- (Q) *Whether the proposed special exception considers the needs of agriculture, industry, and businesses in future growth.*

Analysis: The proposed special exception use is intended to support existing and future quarry rock needs, inclusive of diabase, for industry and businesses within nearby areas. While providing this resource to agriculture will continue, co-location of quarrying and agriculture is unlikely.

(R) *Whether adequate on and off-site infrastructure is available.*

Analysis: Infrastructure associated with water quarry rock transport and distribution within the quarry sites will be enhanced with this proposal. Improvements to Belmont Ridge Road (Route 659) are to be provided through other concurrent applications (ZMAP 2009-0003, ZMAP 2009-0004, and SPEX 2009-0027) to improve offsite infrastructure.

(S) *Any anticipated odors which may be generated by the uses on site, and which may negatively impact adjacent uses.*

Analysis: The proposed special exception use is not anticipated to generate odors which will negatively impact similarly zoned properties in the immediate area.

(T) *Whether the proposed special exception uses sufficient measure to mitigate the impact of construction traffic on existing neighborhoods and school areas.*

Analysis: Existing and proposed road networks serving the proposed special exception use have adequate capacity to divert construction traffic away from existing neighborhoods and school areas.

<b>VI. ATTACHMENTS</b>		<b>PAGE #</b>
<b>1. Review Agency Comments</b>	<b>Referral Dates</b>	
a. Comprehensive Planning	07/14/10	A-01
b. Zoning	07/15/10	A-05
c. Environmental Review	07/12/10	A-09
d. Office of Transportation Services	07/22/10	A-13
e. Virginia Department of Transportation	06/14/10	A-20
f. Virginia Department of Conservation and Recreation	06/09/10	A-22
g. Goose Creek Scenic River Advisory Committee	05/14/10	A-24
h. Parks, Recreation and Community Services	07/15/10	A-25
i. Town of Leesburg	06/10/10	A-30
<b>2. Applicant's Statement of Justification</b>	<b>revised 08/27/10</b>	<b>A-32</b>
<b>3. Applicant's Response to Referral Comments</b>	<b>08/27/10</b>	<b>A-43</b>
<b>4. Reaffirmation of Disclosure of Real Parties in Interest Affidavit</b>	<b>signed 09/20/10</b>	<b>A-153</b>
<b>5. County Attorney's Comments Conditions of Approval</b>	<b>09/23/10</b>	<b>A-173</b>
<b>6. Special Exception Plat Set</b>	<b>revised 08/26/10</b>	<b>Attached</b>